



**EXPERT REPORT ON WATER AND WATER RIGHT IMPACTS ALONG THE RIO
GRANDE IN TEXAS - PARTICULARLY AS IT RELATES TO NAVIGATION AS A
BENEFICIAL USE OF WATER**

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SUMMARY OF OPINIONS

1. Water is a key requirement as it relates to navigability of a river or stream. Without water there can be no navigation.
2. The beneficial use of water is recognized by various statutes which in Texas, as in most all states, requires a state issued water right¹.
3. Beneficial uses of water are prioritized. Particularly in the Rio Grande, Municipal, Industrial, Domestic and Agricultural uses are all considered a higher end use of water for beneficial purposes as compared to navigation.²
4. Once issued and perfected, a water right creates a property interest to water for the water rights holder.³
5. Adjudication of surface water in Texas for Texas water users along the Rio Grande was completed decades ago. There is no additional unallocated water for Texas to permit from the Rio Grande. For users at or below Fort Quitman, Texas, the 1944 Treaty is an inextricable consideration as it relates to the foundation of water rights adjudication.⁴
6. This inextricable element is, in our opinion, the critical basis for which the United States has granted to Texas the primacy right to administer, adjudicate, and call for water releases from the conservation pools of Amistad and Falcon Reservoirs from the water accredited to the United States⁵.
7. In our expert opinion, the Rio Grande, including the segments upstream of Laredo, Texas to Amistad Dam (which includes the site of the Floating Buoy Barrier near Eagle Pass) is not presently used or suitable for use, in its natural condition, as a highway for interstate or foreign commerce and trade in the normal ways that commerce and trade presently are carried on via navigation.
8. We believe that there are no reasonable improvements that could be made to the Rio Grande, including specifically the river segment upstream of Laredo to Amistad Dam (which includes the site of the Floating Buoy Barrier near Eagle Pass) to make this and other Rio Grande segments navigable or suitable for use as a highway for interstate or foreign commerce and trade in the normal ways that commerce and trade presently are carried on via navigation.
9. We believe that the undertaking of improvements, which in our opinion are not warranted due lack of demand for the dedication and use of water for navigation, to make the Rio Grande suitable for use as a highway for interstate or foreign commerce and trade in the normal ways that commerce and trade presently are carried on via navigation will cause negative socioeconomic impacts to existing water right holders, decrease water conveyance efficiency, and disrupt existing higher end uses of water including domestic and municipal uses.
10. We believe that the Rio Grande is a fully appropriated river, with no additional water available for dedication for navigation use.

¹ Texas Water Code, Chapter 11 at <https://statutes.capitol.texas.gov/Docs/WA/htm/WA.11.htm>

² Title 30, Texas Administrative Code, Subchapter C, and Texas Water Code Chapter 11 Section 11.024

³ Texas Water Code, Chapter 11, including but not limited to Sections 11.026, 11.0275, 11.029, 11.040, 11.083, 11.084.

⁴ Title 30, Texas Administrative Code, Chapter 303.

⁵ 22 USC §277d-15

STATEMENT OF QUALIFICATIONS

Carlos Rubinstein has served as Rio Grande watermaster [2000-2009], in various positions of leadership at Texas Commission on Environmental Quality (TCEQ) [2000 - 2009], Commissioner of the TCEQ [2009 – 2013], and Chairman of the Texas Water Development Board (TWDB) [2013-2015]. Mr. Rubinstein is currently a principal for RSAH2O LLC, since 2015.

The TCEQ, as per Texas Water Code Chapter 11, is the state agency with primacy over surface water issues, including the right to use surface water. As Rio Grande Watermaster for the TCEQ, Mr. Rubinstein was responsible for interpreting and applying state statutes and agency rules, as they relate to the use of surface water from the Rio Grande. Mr. Rubinstein has testified on such issues and served as the lead negotiator for Texas on surface water contested matters with Mexico [2000 – 2015], especially with respect to the 1944 water-sharing treaty between the United States and Mexico. The United States Department of State acknowledged Mr. Rubinstein's contributions on these matters⁶. Mr. Rubinstein is often asked to present on the innovative ways in which Texas assisted and successfully resolved the 1992 – 2005 deficit as an example of potential ways water sharing disputes can be addressed. The lessons Texas learned during that process continue to be useful in attempting to resolve more recent disputes regarding the Treaty.

As Commissioner at the TCEQ, Mr. Rubinstein ruled on various contested matters, permit applications, and rulemakings impacting water quality, diversion of and discharge to surface waters of the state, protection of surface and groundwater resources, water use, and transport of groundwater via bed and banks of the state.

At the TWDB, where Mr. Rubinstein served as Chairman, the agency's focus included oversight of the State Water Planning process, which is heavily influenced by surface and groundwater availability, as informed by modeling, existing uses and future demands. The TCEQ developed many of the models that assist in evaluating surface water availability, "Water Availability Models" or "WAMs". The TWDB developed the groundwater availability models, "Groundwater Availability Models," or "GAMs,". The GAMs still assist Groundwater Conservation Districts in their required Joint Planning Process and the determination of Modeled Available Groundwater. The TWDB is also the primary state agency which determines viable, feasible and sustainable water management strategies, and assist in funding for implementation of these recommended strategies.

Herman R. Settemeyer is a registered professional engineer. Mr. Settemeyer spent almost his entire career working in Texas water rights administration. Mr. Settemeyer has specific experience in the adjudication process that unfolded in Texas pursuant to the Water Rights Adjudication Act of 1967. The adjudication process quantified all existing water rights. Additionally, Mr. Settemeyer was instrumental in the processing by the TCEQ, and predecessor agencies, of water rights applications. Mr. Settemeyer's over 40-year experience includes extensive involvement on Rio Grande matters, including having served as Engineer Advisor on

⁶ U.S Department of State Bureau of Western Hemisphere Affairs Certificate of Appreciation issued to Carlos Rubinstein - August 2005

all Texas interstate river compacts, including specifically the Rio Grande. He has participated in meetings and discussions as an advisor representing Texas interest in disputes over the Rio Grande Compact deliveries as well as lack of compliance by Mexico and associated impacts to Texas water rights holders as per the 1944 Treaty. Mr. Settemeyer has presented on Rio Grande matters at various water policy symposiums and continues to be involved in water disputes, including the Texas v. New Mexico and Colorado original action over Rio Grande Compact deliveries currently under consideration by the United States Supreme Court.

Carlos Rubinstein and Herman Settemeyer have served as expert witnesses in various contested matters. These are listed in the respective resumes attached to this report as well as in this report.

Carlos Rubinstein has published various water policy articles. These are listed in the attached resume of Carlos Rubinstein to this report.

BACKGROUND

The Rio Grande is an interstate and international stream that flows from its headwaters in Colorado, east of Silverton, through central New Mexico and into Texas near El Paso. The Rio Grande becomes the international border between the United States (Texas) and Mexico soon after it enters Texas and continues as the border all the way until it enters the Gulf of Mexico.

It is important to note that, since 1900, numerous dams and reservoirs have been constructed on the Rio Grande in Texas, New Mexico, and Colorado⁷. These dams were constructed to facilitate the use of water and/or provide flood protection. Most were constructed by federal entities. Some were constructed by local irrigation and water districts either in Mexico or in Texas. Each represents an additional obstruction to any contemplated navigation along the mainstem of the Rio Grande.

In our multidecade experience on the Rio Grande, we are not aware of and have never witnessed any structures on the Rio Grande that facilitate navigation via lock systems.

Two scenarios that could conceivably be used to make the Rio Grande a navigable commercial waterway are identified in this report. The United States has, to date, not specified a particular methodology with cost and benefit analysis it intends to implement to make the Rio Grande navigable – a use of water which to date is not required, established, nor permitted. This report discusses the issues and impacts to Texas of implementing either scenario. The scenarios are:

1. Dredging the Rio Grande from Falcon Reservoir to Amistad Reservoir.
2. Releasing water from Amistad Reservoir for navigation purposes.

INTERNATIONAL TREATIES AND INTERSTATE COMPACT

The Rio Grande is primarily governed by two distinct international water sharing agreements (treaties) between the United States and Mexico; minutes that interpret the treaties adopted by

⁷ Among these are Elephant Butte, Caballo, American, International, Amistad, Falcon, Anzalduas and Retamal Dams as well as several other weir structures to facilitate diversion of water from the Rio Grande.

the binational sections of the International Boundary and Water Commission (IBWC)⁸; as well as an interstate compact between the states of Colorado, New Mexico, and Texas⁹. The first international agreement is the Convention between the United States and Mexico Equitable Distribution of the Waters of the Rio Grande (1906 Convention) which was adopted in 1906 and applies to the waters of the Rio Grande above Fort Quitman, Texas. The second signed in 1944 and the most pertinent to the current issue is titled Utilization of Waters of the Colorado and Tijuana Rivers and of the Rio Grande (1944 Treaty). The 1944 Treaty provides for the **complete utilization** of the waters of the Rio Grande below Fort Quitman, Texas¹⁰.

The International Boundary and Water Commission (IBWC) comprised of a United States Section (IBWC) and a Mexican Section (CILA) is responsible for the administration of the 1944 Treaty¹¹. Article 3 provides for an order of preference for the use of water. Such order of preference is as follows:

1. Domestic and municipal purposes.
2. Agriculture and stock raising.
3. Electric power.
4. Other industrial uses.
5. Navigation.
6. Fishing and hunting.
7. Any other beneficial uses determined by the IBWC.

These beneficial uses are defined in the 1944 Treaty.

Article 4 provides for the allotment of water between the United States and Mexico. The allotment of water for Mexico is:

1. 100% of the Rio San Juan and Rio Alamo.
2. 2/3 of the Rio Conchos, Rio San Diego, Rio San Rodrigo, Rio Escondido, Rio Salado, and Las Vacas Arroyo.
3. 50% of all other flows not otherwise allocated.

The amount allocated for the United States is:

1. 100% of the Pecos and Devils Rivers, Good-enough Spring, and Alamito, Terlingua, San Felipe, and Pinto Creeks.

⁸ These can be obtained and downloaded at <https://www.ibwc.gov/treaties/>

⁹ Texas has five interstate river compacts - Canadian, Pecos, Red River, Rio Grande and Sabine. The Canadian, Pecos and Rio Grande in part include New Mexico, Texas and on the Rio Grande also Colorado. Other states that are members of river compacts with Texas include Oklahoma, Arkansas and Louisiana (<https://compacts.csg.org/state/texas/>)

¹⁰ The 1906 Convention addresses water sharing on the Rio Grande between the United States and Mexico from the headwaters in Colorado to Fort Quitman, Texas. The 1944 Treaty addresses all water on and entering the Rio Grande from Fort Quitman to the Gulf of Mexico.

¹¹ <https://www.ibwc.gov/wp-content/uploads/2022/11/1944Treaty.pdf>

2. 1/3 from the Rio Conchos, Rio San Diego, Rio San Rodrigo, Rio Escondido, Rio Salado, and Las Vacas Arroyo. Provided that this one third shall not be less, as an average in cycles of 5 consecutive years of 350,000 acre-feet annually.
3. 50% of all other flows not otherwise allocated.

Article 4 also contains provisions addressing extraordinary drought. “Extraordinary” has never been defined by the IBWC.

The Treaty (Article 5) provides for the construction of three dams for the conservation, storage, and regulation of the annual flow of the river. Falcon and Amistad Dams and Reservoirs have been built. The third dam has not. It was historically thought that it would be near Laredo¹², although that could potentially change if conditions warrant and if a third dam was in fact deemed necessary and feasible. Additional studies would have to be completed to evaluate the feasibility for the construction of a third dam. These studies would need to address at a minimum a specific location, size and capacity, additional water supplies generated, water supplies for each country, cost shares by the U. S. and Mexico, financial obligations, environmental concerns, land acquisition, and permitting requirements. Hydrologic studies to determine the additional water supply generated from any proposed third reservoir would be very important. Construction of a third dam would have consequences beyond the obvious storage of water, including additional structure and impediment of flow and use of the Rio Grande, inundation of land and associated potential environmental considerations. There are likely other required studies.

Article 4 clearly allocates **all the waters of the Rio Grande** between the United States and Mexico¹³. The United States Section of the IBWC, as a matter of practice, reports to Texas, on the last Saturday of each month, the total amount of water in storage for the United States. Mexico’s allocation is also similarly reported, and within Mexico, such allocation is governed by CONAGUA – a federal water entity.

It is of note, that per the 1906 Convention all waters in the Rio Grande reaching Fort Quitman, Texas are waters belonging to the United States (Texas). After the waters pass Fort Quitman and are administered under the 1944 Treaty, the IBWC allocates half of this water to Mexico. This specific allocation of water to Mexico downstream of Fort Quitman is not found or authorized under the 1944 Treaty. Texas officials have raised this issue with the United States Section of the IBWC in the past to no avail. The issue remains an unresolved concern and point of dispute.

The United States and Mexico have a mechanism by which decisions on implementation, project advancement, study cooperation, problem resolution, etc. relative to the Treaty are memorialized. This is in the form of Minutes. These minutes must be approved by both the United States and Mexico. It is important to note that Minutes are not Treaty amendments.

TEXAS’S ADMINISTRATION OF THE RIO GRANDE

It is our experience that water adjudications and allocations are reserved to the purview of each respective state. Shared interstate basins can be regulated by river compacts. The waters of the

¹² Article 5 of the 1944 Treaty.

¹³ <https://www.ibwc.gov/wp-content/uploads/2022/11/1944Treaty.pdf>

Rio Grande have been adjudicated for some time. The first adjudication of Rio Grande water rights began in the 1950's and pertained to the water rights below Falcon Reservoir. The drought of the 1950's created disputes over the rights to use the water of the lower Rio Grande. Subsequently, litigation in the Court of Civil Appeals of Texas, *Corpus Christi State v Hidalgo County Water Control and Improvement District No. 18 (Valley Lawsuit)* was filed. This litigation, which took almost 20 years, adjudicated all Texas water rights from the Rio Grande below Falcon Reservoir¹⁴. The Valley Lawsuit established the priority system for these water rights. It created the system whereby Domestic, Municipal, and Industrial rights have priority over all other rights and established Class A and B rights for irrigation and mining uses. Subsequently, the Texas legislature passed the Water Rights Adjudication Act in 1967¹⁵. All other rights adjudicated in Texas were pursuant to this act. The adjudication of water rights in the middle Rio Grande, Amistad Dam to Falcon Reservoir, were adjudicated using the same priority scheme as the court established lower Rio Grande. The water rights from Fort Quitman to Amistad Dam were adjudicated based on a first in time, first in right priority¹⁶. The Rio Grande water rights above Fort Quitman were also adjudicated on a first in time priority. It is important to note that rights based on the storage at Amistad and Falcon Reservoirs do not have the right to make a priority call on any of the water rights above Fort Quitman or any of the water rights on tributaries of the Rio Grande. In Texas, the Texas Commission on Environmental Quality (TCEQ) administers, through its Rio Grande Watermaster Program, the use of the waters of the Rio Grande below Fort Quitman by Texas water right holders¹⁷. All water use from the Rio Grande requires a water right from the TCEQ¹⁸. Most of these rights are certificates of adjudication granted through the adjudication process. Some exist as permits issued by the TCEQ. Importantly, all water on the Rio Grande that is allocated or accounted as United States water in the conservation pool of either Amistad or Falcon Reservoir is immediately allocated by the IBWC to Texas; and it is this water allocation that forms the basis for further assignment of said water to Texas' water right holders. The Rio Grande in Texas is considered a closed system that has been fully allocated. There is no additional Rio Grande water available for appropriation.

Once the IBWC reports to the Rio Grande Watermaster the total amount of water in storage for the United States, the Watermaster allocates this water to the Texas water right holders. As per the Valley Water Court decisions and subsequent adjudications Texas' Rio Grande water, and Title 30 - Texas Administrative Act – Chapter 303 state rules, allocations to Middle (below Amistad Reservoir) and Lower Rio Grande (below Falcon Reservoir) accounts shall be based on water from the volume of water in storage assigned as United States water's usable storage of Falcon and Amistad Reservoirs. Such storage shall be computed as the total storage in Amistad and Falcon Reservoirs that was reported by the IBWC. The Watermaster determines the amount of water to be allocated to the various accounts (water rights), in the following sequence:

1. from the amount of water in usable storage, deduct 225,000 acre-feet to re-establish the reserve for municipal, domestic, and industrial uses. Thus, all municipal,

¹⁴ <https://ttu-ir.tdl.org/server/api/core/bitstreams/9b8ba783-9680-4479-bc33-5902af695ac8/content>

¹⁵ <https://www.tshaonline.org/handbook/entries/water-law#:~:text=The%20Water%20Rights%20Adjudication%20Act,with%20the%20TWC%20by%201969> .

¹⁶ Title 30 Texas Administrative Code, Chapter 303

¹⁷ Title 30 Texas Administrative Code, Chapter 303

¹⁸ Texas Water Code, Chapter 11 Section 11.121.

domestic, and industrial users get the first allocation of water each month and are fully protected.

2. from the remaining storage, deduct the total end-of-month account balances for all Lower and Middle Rio Grande irrigation and mining allottees.
3. from the remaining storage, deduct 75,000 acre-feet for the operating reserve.
4. from the remaining storage, deduct the total amount of water held in storage from water-in-transit.

Any additional water available for allotment, after the deductions above, is allocated to Class A and Class B water right accounts (primarily irrigation and mining accounts)¹⁹.

The allocation process and priority of use system Texas uses to administer water rights at and below Amistad Reservoir on the Rio Grande is consistent with previous court decisions issued as part of the Valley Lawsuit. This system of water rights administration from the water from the Amistad/Falcon Reservoir system is different than any other in Texas. It is based on priority by use as opposed to a priority by time (first in time is first in right). Thus, the municipal, domestic, and industrial users are fully protected. The other water rights (irrigation, mining, etc.) are the rights that are curtailed during drought or failure of Mexico to meet its water deliveries. The water rights above Amistad Reservoir are administered based on priority by time.

Texas administers water rights in accordance with Chapter 11 of the Texas Water Code (TWC). The TWC defines state water as the water of the ordinary flow, underflow, and tides of every flowing river, natural stream, and lake, and of every bay or arm of the Gulf of Mexico, and the storm water, floodwater, and rainwater of every river, natural stream, canyon, ravine, depression, and watershed in the state is the property of the state. The TWC also provides for the acquisition of the right to use state water. The right to the use of state water may be acquired by appropriation in the manner and for the purposes provided by the TWC. The purposes for which state water may be appropriated are:

1. domestic and municipal uses, including water for sustaining human life and the life of domestic animals.
2. agricultural uses and industrial uses.
3. mining and recovery of minerals.
4. hydroelectric power.
5. navigation.
6. recreation and pleasure.
7. public parks.
8. game preserves.
9. recharge into an aquifer.
10. state water also may be appropriated, stored, or diverted for any other beneficial use.

While hydroelectric power is a recognized beneficial use, in the Rio Grande, water rights that include hydroelectric power do not enjoy the right to “call” for water releases simply to generate power. Power generation, a nonconsumptive use, is an incidental function of water being released for higher priority beneficial uses such as domestic, municipal, industrial and

¹⁹ Title 30 Texas Administrative Code Chapter 303, Subchapter C

agriculture. Even as an incidental nonconsumptive use of water, power generation still requires a water right from the state of Texas. This highlights the value of water to Texas' users, the regulatory certainty relative to water management by Texas on the Rio Grande, and the need to efficiently manage such a limited resource.

RIO GRANDE NAVIGATION WATER RIGHTS

The TWC provides the opportunity to acquire a water right for navigation purposes.²⁰ The 1944 Treaty lists navigation as a purpose of use. To our knowledge, no water rights exist or have ever existed on the Rio Grande for navigation purposes.

While various federal agencies have acquired water rights from Texas for use of Rio Grande water, none of these rights authorize water use for navigation. Most all beneficial uses under water rights issued to federal agencies by the TCEQ are restricted to municipal and irrigation. Issuance of water rights by the TCEQ to federal agencies for water use on the Rio Grande further substantiates the primacy over water use and allocation as a State of Texas specific purview. And use of Texas state waters without a water right permit issued by the TCEQ is unlawful.²¹ Federal agencies owning water rights from Texas on the Rio Grande include the IBWC, Bureau of Reclamation, United States Department of Agriculture, United States Fish and Wildlife, National Parks Service, United States Immigration and Customs Enforcement and United States Department of Labor. Water rights on the Rio Grande, like all other water rights issued by the TCEQ can be viewed and downloaded from the TCEQ Water Rights Viewer²².

IMPACTS AND ISSUES ASSOCIATED WITH POTENTIAL DREDGING OF THE RIO GRANDE

Dredging the Rio Grande has been mentioned by the United States's experts as possible means to make the Rio Grande commercially navigable. It could be physically possible to dredge the Rio Grande from Falcon Reservoir to Amistad Reservoir. However, with only conceptual ideas available to address dredging, with no specificity or clarity provided by the United States, the following impacts and concerns are, in our opinion, expected to occur:

1. The concept of dredging the Rio Grande for navigation will have impacts for both Texas and Mexico water users.
2. Mexico's approval will likely be required as they and their water users will be impacted.
3. Where would the dredging occur, on the Texas side or Mexico side or in the middle? To date the United States's experts have not offered any specificity in this regard.
4. If a channel is created to carry the current water releases, would it carry both United States and Mexico water? If navigation is desired by only one country, how would costs, mitigation impacts and water use be determined and apportioned?
5. Dredging the Rio Grande could alter the flow of the river. It could change the river from its current condition of meandering bank-to-bank flows to a narrow channel of

²⁰ Texas Water Code, Chapter 11 Section 11.023

²¹ Texas Water Code, Chapter 11 Section 11.081

²² <https://www.tceq.texas.gov/gis/water-rights-viewer>

- water. This could result in water rights on both sides of the river no longer having access, or having to incur costs, some perhaps substantial, to be able to maintain access to the water to supply their water rights. There are existing water rights on the Rio Grande in Texas between Falcon Dam and Amistad Dam.
6. How would increase releases of water for navigation be accounted for as it relates to computation of river losses? If the navigation channel was on the Texas' side, would it carry only Texas water? Water is released from Amistad Reservoir for both United States' and Mexico's users. Ownership of water is accounted for in each reach of the Rio Grande by the IBWC. River losses to bank storage and evaporation are charged proportionately to the ownership of water within each reach. If the water in the dredged channel, is only United States' (Texas) water, the shared transportation losses on releases of water between Texas and Mexico would change. This change would also diminish and disproportionately negatively impact Texas water right holders along the Rio Grande.
 7. The IBWC, with concurrence from Mexico, would need to develop and approve new loss rates and methodology for the changed conditions.
 8. Mexico's approval is not a given. For example, a Texas entity (Brownsville Public Utility Board) has obtained the necessary Texas and Federal permits to construct a weir dam on the Rio Grande below Brownsville, Texas. Mexico has to date refused to give permission to construct this dam.
 9. Dredging the Rio Grande would be a never-ending project. Inflows to the Rio Grande would cause never ending silt accumulations which would need to be maintained. Would IBWC be the entity responsible? Would appropriations required to maintain navigability of the river be made?
 10. What would be the environmental impacts associated with such a project?
 - a. How would disturb sediment during dredging impact downstream diversions?
 - b. How would increase dissolved solids in the Rio Grande from dredging impact treatment works on both sides of the river?
 - c. As water quality would be impacted, treatment costs are likely to increase for downstream municipal and industrial users. Who would pay for these increased costs?
 11. Who would be the economic beneficiaries of this project?
 - a. Both Carlos Rubinstein and Herman Settemeyer have attended numerous meetings with the IBWC, both United States and Mexico Sections, as well as with the Department of State during their careers at the TCEQ; never was constructing a project to make the Rio Grande commercially navigable ever discussed.
 - b. Both Carlos Rubinstein and Herman Settemeyer have expended a good portion of their careers traveling every segment of the Rio Grande, including the "forgotten reach" between Ft. Quitman and Presidio, where the river channel in fact disappears and water flow is non-existent most of the time. At no time have they witnessed a need for or a use of the river for commercial navigation. Recreation navigation (fishing) has been noted in specific segments of the Anzalduas pool, and the Falcon and Amistad impoundments. Otherwise, due to reduced water availability and security concerns, the use of the river channel consists almost exclusively for water conveyance.

- c. Neither Carlos Rubinstein nor Herman Settemeyer are aware of any studies that identify any potential economic benefits from commercial navigation projects.
12. Mexico's historical and habitually reluctant Treaty compliance has always been an issue, further impacting and diminishing water availability and flows on the Rio Grande. Even though the United States, under this same Treaty, has set aside water for Treaty compliance and made its agreed upon water deliveries to Mexico regarding the Colorado River. Mexico's noncompliance is, as members of the Department of State have termed it – "a significant bilateral irritant"²³. As previously noted, navigation requires water. Mexico's noncompliance and reduced water deliveries, a major responsibility of the IBWC, not only precludes consideration of the potential use of the segment of the river in question for navigation, and results in significant socioeconomic impacts to Texas water rights holders with a need for higher uses of water along the Rio Grande.

IMPACTS TO TEXAS' WATER USERS IF WATER IS DEDICATED OR RELEASED FOR FUTURE NAVIGATION

The second option for making the Rio Grande commercially navigable would be to release more water from Amistad Reservoir using the existing channel or a lock system. This again raises many issues. As stated earlier, the Rio Grande is fully appropriated. There is no water left for additional uses. Water in Texas once adjudicated under a water right infers on the owner of that right a private property interest²⁴. Water as a property interest has value. Impeding a water right holder from exercising an issued water right and enjoying its authorized use, or the taking of such use in whole or in part, is from our experience and opinion, at a minimum a contentious and litigious undertaking. Among the many unanswered questions and concerns the United States has not addressed in its desire to promote the recognition and use for navigation in the Rio Grande are:

1. Where would the water required to be released to "make the Rio Grande commercially navigable" come from? The 1944 Treaty requires that water be stored in the most upstream reservoir.
2. What private property taking claims would this cause? As previously discussed, an issued water right from Texas on the Rio Grande is inextricably linked to the amount of water owned by the United States at both Amistad and Falcon Reservoirs. Once perfected, as all Texas water rights along the Rio Grande have been, these rights created a property interest to water. A unilateral change in purpose of use by the United States to promote navigation on the Rio Grande would have a negative impact to the property interest, benefits, and enjoyment of use by Texas water rights holders.
3. Will both United States (Texas) water and Mexico water be released?
4. Would Mexico participate in this project? For the reasons explained above, we don't think so.

²³ Discussions between Roberta Jacobson (then with the United States Department of State) and Carlos Rubinstein (then Rio Grande Watermaster) during discussions regarding the 1992 – 2005 Mexico water debt.

²⁴ The Texas Law of Water Rights, Wells A. Hutchins 1961 - page 221.

5. How much water would be required to facilitate this project? Let's say for discussion purposes its 100,000 acre-feet annually.
 - a. Would this water be taken by the United States from the conservation pool for navigation downstream before it is allocated to Texas?
 - b. Who would compensate the Texas' water users for the loss of this water?
 - c. Who would be responsible for requesting water releases for navigation purposes?
 - d. How would the United States justify such use of water out of Amistad Reservoir, when the controlling Article 8 of the 1944 Treaty specifically calls for water to be maintained and used **"...for the purpose of obtaining the most beneficial, regular and constant use of the waters..."**
 - e. How would the United States justify such use of water out of Amistad, when the controlling Article 8 of the 1944 treaty specifically calls for storage **"...in all reservoirs above the lowest shall be maintained at the maximum possible water level, consistent with flood control, irrigation and power use"**?
 - f. We are aware that construction between Amistad Reservoir and Flacon Reservoir has been allowed to take place within the flood protection zone. During normal releases of water to mitigate large flood inflows into Amistad, downstream properties have been inundated. What impacts would occur due to increased flows simply to provide for commercial navigation have on those already in danger and any impacted lands?
 - g. Would Texas, having primacy over surface water use and permitting, issue a water right to an entity for navigation in this fully appropriated stream where there is no demonstrated need? We don't think so.
6. A portion of the water released for navigation purposes will arrive at Falcon Reservoir. Whose water will this be, and whose storage will this occupy?
7. If water is stored by the United States in Amistad Reservoir for navigation purposes, will it be stored in the United States allocated storage? Thus, depriving storage space to store water for existing users? Such a reduction in storage volume would have a permanent, negative socioeconomic impact on Texas water users.
8. Where would evaporative losses from this new use of water and taking for navigation purposes be charged against? If to the overall United States share, this loss could further negatively impact Texas' water right holders on the Rio Grande.
9. How would reservoir operations be adjusted? Under a long-established process, releases of water from the conservation pool in the international reservoirs (Amistad and Falcon Reservoirs) are based on downstream demand for water. Mexico's water is released per CONAGUA and CILA requests. United States water is released per daily requests and modifications called for by the Texas Rio Grande Watermaster. This is a logical reservoir operation methodology since it is water in the conservation pool that forms, with regulatory certainty, the basis for water allocations to water rights holders.

It is only when the storage volume exceeds conservation capacity and enters the flood pool storage within an international reservoir (Amistad and/or Falcon) that releases of flood water from storage transfers to and is managed by flood operation protocols of

the IBWC. This, again, is logical as the reservoirs serve both a water supply and a flood protection purpose. Such flood pool releases remain under IBWC purview until the storage volumes return to conservation levels.

The desire to make a portion of the Rio Grande commercially navigable, if it is to be served by increased releases of water from the reservoir, would necessitate a taking of water from the conservation pool. Since this would not be water called for downstream consumptive demand, how would the corresponding demand calls for water and the release for navigation purposes be managed? How would reservoir operations be modified? What impacts would this have on water efficiency? The United States has not provided answers or specificity relative to these important considerations.

Could the Rio Grande become a commercially navigable waterway like the intercoastal canal or similar systems? Could locks and dams be constructed on the Rio Grande? Construction wise, it's possible. Most anything can have an engineered solution – but not always a feasible or correct action to undertake. We believe the economic costs of creating such a system of navigation on the Rio Grande would be economically unfeasible. We know of no studies or diplomatic discussions that have addressed such scenarios. We know of no beneficial demand for the use of the Rio Grande for commercial navigation to move people and goods. And again, these developments would require water. We believe lots of water. This use of water would come at the detriment of Texas's current water users. Texas's water users currently do not have enough water to meet their needs mostly due to Mexico's lack of adherence to its obligations under the 1944 Treaty and the United States government's inability to get Mexico to honor the Treaty and comply.

HISTORICAL VISUAL OBSERVATIONS OF AUTHORS REGARDING RIO GRANDE NAVIGATION

The history of navigation and its intent on the Rio Grande follows the development of both Texas and Mexico. As we moved through time, the importance of navigation when the region of Texas was being developed and times prior has changed. Initially, in the 1700 and 1800's, river transport, like in most of the developing United States and in particular for this case, in the lower reaches of the Rio Grande, was a key method of moving materials. Roads, trains, cars, trucks as a method of moving goods did not exist. Animals and water provided the means to move goods. As time and development advanced with the advent of the railroad, roads and vehicle transport, the need for river transport on the Rio Grande has ceased. The railroads and road transportation replaced the Rio Grande as a means, with greater efficiency, to transport materials. We do not believe moving back to river transport would be economically feasible. We are not aware of any studies identifying any future commercial navigation projects on the Rio Grande.

Carlos Rubinstein previously served as City Manager of Brownsville (1997 – 2000). During that time a new international bridge was constructed – Veterans Bridge also known as Los Tomates. From that experience, it was clear that commerce (movement of people and goods) needs large scale efficient infrastructure. Development of rail, truck and air traffic has provided, in our opinion, a reason why rivers such as the Rio Grande stopped being a serious consideration for navigation long ago.

As previously noted, both Carlos Rubinstein and Herman Settemeyer have observed the Rio Grande in many locations over many decades. Both in Texas and Mexico, as well as New Mexico and Colorado. Never have we seen any commercial navigation activity. This begs the question – while navigation is a recognized beneficial use of water, the actual benefit is derived from the existence of the demand for such use. Such demand does not exist. And even if a demand was created within this intervening reach, how would people and goods make it up the Rio Grande, through at least 3 additional in channel dams and control works (Falcon, Anzalduas and Retamal), to “enjoy” the benefits of the anticipated navigation use?

REASONS FOR OPINIONS

PHYSICAL BARRIERS

- 1) There is insufficient water supply in the Rio Grande upstream from Laredo (now and in the foreseeable future) to make any necessary improvements to make navigation feasible.
- 2) There are numerous physical barriers on the channel of the Rio Grande that make navigation impractical if not impossible. Among these are:
 - i) Existing dams and control structures, namely Retamal, Anzalduas and Falcon downstream of Laredo, and Amistad upstream of Eagle Pass.
 - ii) Numerous rock and similar structures created by irrigation districts along the Rio Grande to create pools to enhance diversion of water.
 - iii) There are points along the Rio Grande where most of the water is diverted off-channel for permitted beneficial uses, namely the Maverick Irrigation District.

WATER RIGHTS BARRIERS

- 1) There are no existing water rights for navigation in the Rio Grande.
- 2) There is no additional unallocated water available for appropriation from the Rio Grande.
- 3) Holders of higher priority water rights have a right and a protection to prevent any changes that would diminish or burden their water rights. Any changes to the Rio Grande to enable commercial navigation, including but not limited to a change in releases of water from Amistad Dam for that purpose, would infringe on their previously issued water rights.

TREATY AND REGULATORY BARRIERS

- 1) The 1944 Treaty between the United States and Mexico prioritizes many other uses of the water of the Rio Grande above navigation. The Texas Water Code similarly delineates priority of use categories above navigation. The waters of the Rio Grande belonging to the United States are fully allocated by the Texas Commission on Environmental Quality to uses of higher priority than navigation. Accordingly, any improvements that could conceivably require Rio Grande water to be dedicated to navigation would violate the Treaty and the Texas Water Code.
- 2) To reprioritize the use of Rio Grande water for navigation would inflict serious hardship on cities and consumers in both the United States and Mexico; on farmers in

both the United States and Mexico; and on users of hydroelectric power generated at Amistad Dam and Falcon Dam.

ECONOMIC BARRIERS AND NEEDED CONSENTS

- 1) The negative socioeconomic impact to existing users of water from an unwarranted reapportionment of water to navigation, coupled with potential costs to improve and maintain navigation on the relevant stretch of the Rio Grande where there is no demonstrated demand is difficult to justify.
- 2) Improvements to the relevant stretch of the Rio Grande to make it commercially navigable would require large financial resources appropriated by the Congress of the United States and by Mexico that are of very doubtful availability; would require consents or approvals of the International Boundary Water Commission (IBWC); federal, state, and local governments of both the United States, and Mexico that are uncertain and highly unlikely. Obtaining any such consents or approvals for a use without any demonstrated demand, even, if possible, likely would require extended periods of time and extensive efforts, likely decades at a minimum.
- 3) Improvements to the relevant stretch of the Rio Grande to make it commercially navigable could not be accomplished by the Army Corps of Engineers, which has no authorization or ability to operate Amistad Dam, to dredge in the channel of the Rio Grande, to remove plant species from the Rio Grande, or to stabilize the banks of the Rio Grande. These actions would have to be accomplished or approved by the IBWC, which operates Amistad Dam and has the right to maintain the channel of the Rio Grande in the relevant stretch. The IBWC cannot schedule releases of U. S. water from the conservation pool from Amistad Reservoir on its own initiative, but only pursuant to requests from the TCEQ Watermaster on behalf of Texas water rights holders. Thus, any proposed improvements involving the release of U. S. water from the conservation pool at Amistad Dam would require the active cooperation or consent of TCEQ, a Texas state agency and independent U. S. (Texas) water rights holders, including Texas cities and Texas farmers.

ENVIRONMENTAL, REGULATORY, AND PERMITTING BARRIERS

- 1) Improvements to make the relevant stretch of the Rio Grande commercially navigable would require compliance with a large array of United States and Texas regulatory statutes and requirements (including permitting requirements), all of which would be uncertain, costly, and time-consuming – particularly when there is no demonstrated need for such improvements and undertaking. These include environmental requirements; water quality requirements; endangered species requirements; archaeological requirements.

REBUTTAL TO PLAINTIFF'S EXPERT REPORTS

The report presented by Adrian D. Cortez provided primarily factual information regarding IBWC operations and responsibilities on the Rio Grande. Mr. Cortez did discuss changes that

would be needed to increase navigation on the Rio Grande. Mr. Cortez is not a registered engineer.

- 1) Mr. Cortez confirmed that the release of waters owned by the United States is at the discretion of the Rio Grande Watermaster of the TCEQ. The control of waters in the United States' portion of the conservation storage was granted to the State of Texas under 22 U.S.C. Section 277d-15. Mr. Cortez provided no information on if or how this authority could be taken away from Texas²⁵.
- 2) Mr. Cortez indicates that under current IBWC rules, Amistad Dam is to prioritize storage for flood control, irrigation use, and power requirements and does not consider navigation a priority. As per Mr. Cortez, if releases for navigation are inconsistent with these rules an amendment would be possible subject to approval of the two Governments (U. S. and Mexico). However, either country may "avail itself whenever it so desires, of any water belonging to it and stored in the international reservoirs, provided that the water so taken is for direct beneficial use for the storage in the other reservoirs." In other words, it appears he's indicating that without amendment to Commission rules, water can only be released for navigation if it will be used for flood control, irrigation use, or power requirements or stored in downstream reservoirs for such use.²⁶
 - i) Thus, any water released solely for navigation purposes would require an amendment to the Commission rules.
 - ii) No information was provided describing the process to amend the Commission rules.
 - iii) If these rules or processes are confidential and without public input, Texas stakeholders would not be part of the process.
- 3) Mr. Cortez's report specifies that Amistad Dam and Reservoir is used for flood control, conservation and water supply, recreation, and power generation to the benefit of users in the United State and Mexico.²⁷ Navigation is not listed by Mr. Cortez as a beneficial use in either Amistad or Falcon reservoirs.²⁸
- 4) Mr. Cortez's report discusses accounting procedures used to determine ownership of "all waters" in the Rio Grande downstream of Fort Quitman.²⁹
- 5) Mr. Cortez's report provided no information regarding any Government-to-Government meetings or discussions regarding amending the rules to provide a higher priority for navigation releases.
- 6) Mr. Cortez's report provided no information regarding any meetings or discussions with Texas officials or stakeholders regarding amending the rules to provide navigation releases.
- 7) Mr. Cortez's report provided no information regarding any proposed projects to convert the Rio Grande to a commercially navigable river.
- 8) Mr. Cortez's report provided no information regarding any cost-benefit analysis of any project requiring the release of water for navigation.
- 9) Mr. Cortez's report provided no information regarding any proposal or interest by Mexico to release water solely for navigation purposes.

²⁵ Adrian D. Cortez Expert Report on Rio Grande basin Operations pages 19 and 20.

²⁶ Adrian D. Cortez Expert Report on Rio Grande basin Operations page 36

²⁷ Adrian D. Cortez Expert Report on Rio Grande basin Operations page 15

²⁸ Adrian D. Cortez Expert Report on Rio Grande basin Operations page 20

²⁹ Adrian D. Cortez Expert Report on Rio Grande basin Operations page 20

- 10) Mr. Cortez did surmise that the use of water for navigation between Amistad and Falcon Reservoirs is highly dependent on the consumptive use needs of water users in the United States and Mexico downstream of Falcon Dam.³⁰
- 11) Mr. Cortez did surmise that the IBWC deploys small watercraft **when the water levels allow** for the purpose of data collection, surveillance of infrastructure, water operations, and survey.³¹
- 12) Mr. Cortez's report did not identify any specific IBWC activities that had been impacted by the buoys.

The report presented by Mr. Timothy L. MacAllister discussed the types of vessels currently able to navigate on the Rio Grande and "reasonable improvements" that could be made to enhance and incrementally improve navigation on the Rio Grande.

- 1) Mr. MacAllister's report indicates he is responsible for the operation and maintenance of multipurpose reservoirs within the Fort Worth District of the U. S. Army Corps of Engineers.³²
- 2) Mr. MacAllister indicates that the IBWC, and not the U.S. Army Corps of Engineers, owns and operates Amistad and Falcon Reservoirs to provide flood control and water conservation storage for the benefit of the United States and Mexico.³³
- 3) Mr. MacAllister's states he is not and has not been **employed** within the Regulatory Division of the Corps Fort Worth District.³⁴
- 4) Mr. MacAllister indicated in deposition that he was instructed to assume all regulatory obstacles and financial obstacles were completed or addressed and therefore not a consideration.
 - i) Mr. MacAllister indicated no costs estimates or economic benefit studies had been completed regarding navigation on the Rio Grande.
 - ii) Mr. MacAllister indicated no studies had been completed to determine if any suggested improvements would increase navigation on the Rio Grande.
 - iii) Mr. MacAllister indicated that without a designed project no costs estimates could be provided.
- 5) Mr. MacAllister's report discusses the timing of releases to take advantage of high inflows from the watershed to enhance navigation.³⁵ The Rio Grande Watermaster currently considers tributary inflows when making their requested release amounts to the IBWC as a water conservation strategy. And the IBWC must account for side inflows and use in its water accounting processes – Issues not addressed by Mr. MacAllister.

³⁰ Adrian D. Cortez Expert Report on Rio Grande basin Operations page 37

³¹ Adrian D. Cortez Expert Report on Rio Grande basin Operations page 35

³² Timothy L. MacAllister Expert Report on Rio Grande Navigation and Reasonable Improvements to incrementally Improve Navigation on River Miles 275.5 to 610 page 2

³³ Timothy L. MacAllister Expert Report on Rio Grande Navigation and Reasonable Improvements to incrementally Improve Navigation on River Miles 275.5 to 610 page 5

³⁴ Timothy L. MacAllister Expert Report on Rio Grande Navigation and Reasonable Improvements to incrementally Improve Navigation on River Miles 275.5 to 610 page 3

³⁵ Timothy L. MacAllister Expert Report on Rio Grande Navigation and Reasonable Improvements to incrementally Improve Navigation on River Miles 275.5 to 610 page 6

- 6) Mr. MacAllister's report discusses the need for cleaning/dredging, removal of buildup, and removal of snags and drift to enhance navigation.³⁶ Mr. MacAllister also discussed the issue of Carrizo Cane growth within the Rio Grande.³⁷ We understand such activities to be part of the IBWC's normal assigned river maintenance activities. We are not aware of IBWC performing these activities to enhance navigation.
- 7) Throughout Mr. MacAllister's report he discusses water releases from Corps of Engineer reservoirs. He indicates the various uses made of the released water. No examples were provided where water was only released for navigation purposes. The report discusses navigation on the released water designated for other purposes.
- 8) In summary, when Mr. MacAllister indicated in deposition that he was instructed to assume all regulatory obstacles and financial obstacles were completed; these assumptions in our opinion took all issues of reality off the table. Any change in priority of use of the water as currently allocated by the priorities of the 1944 Treaty; the impacts to the water supplies allocated to Mexico and United States (Texas) water users; the water right priorities of water users in Texas and Mexico; and the environmental impacts cannot be simply dismissed with the simple assumption that those issues are complete. They must be thoroughly studied and evaluated to ensure all are protected.

FACTS, DATA, AND DOCUMENTS CONSIDERED

- Convention between the United States and Mexico – Equitable Distribution of the Waters of the Rio Grande – signed in 1906
- Utilization of Waters of the Colorado and Tijuana Rivers and the Rio Grande – Treaty Between the United States of America and Mexico Signed in 1944
- Texas Water Code – Chapter 11
- 30 Texas Administrative Code, Chapter 303, - specifically §303.16, §303.21, §303.22 and §303.23
- Rio Grande Basin Map
- U.S. Title 22 Section 277d-15
- U.S. Expert Report of Adrian Cortez, Benjamin Johnson, Capt. John Timmel and Timothy MacAllister
- Sources cited in footnotes on this report
- Texas Water Rights Viewer found at:
<https://tceq.maps.arcgis.com/home/item.html?id=44adc80d90b749cb85cf39e04027dbdc>
- 2021 Rio Grande Regional Water Plan found at:
https://www.twdb.texas.gov/waterplanning/rwp/plans/2021/M/RegionM_2021RWP.pdf
- The Texas Law of Water Rights, Wells A. Hutchins (1961)

³⁶ Timothy L. MacAllister Expert Report on Rio Grande Navigation and Reasonable Improvements to incrementally Improve Navigation on River Miles 275.5 to 610 page 6 and 7

³⁷ Timothy L. MacAllister Expert Report on Rio Grande Navigation and Reasonable Improvements to incrementally Improve Navigation on River Miles 275.5 to 610 page 9

STATEMENT OF PREVIOUS EXPERT TESTIMONY OR DEPOSITIONS IN THE LAST FIVE YEARS

Carlos Rubinstein has served as an expert witness, prepared expert reports, opinions, offered direct testimony, been subject to cross examination and/or deposition in the following cases:

- State Office of Administrative Hearings (SOAH) Docket NOS. 965-23-21218 & 965-23-21219 Application by SLR Property I, LP for new 9,000 AF/YR Simsboro and Hooper Drilling and Operating Permit and Application by SLR Property I, LP for new 15,000 AF/YR Simsboro and Operating Permit
- Cause No. CV23238, Texas Parks and Wildlife vs FLG Owner, LLC, ET AL: 87th Judicial District Court of Freestone County
- SOAH Docket No. 582-22-2634, TCEQ Docket No. 2022-0125-WR; Application of City of Wichita Falls for Water Use Permit No. 13404
- SOAH Docket NO. 582-22-02856, TCEQ Docket NO. 2022-0326-MWD; Application of Restore the Grasslands LLC and Harrington/Turner, LP for TPDES Permit NO. WQ.0016003001
- SOAH Docket NO. 582-22-1016, TCEQ Docket NO. 2021-1214-MWD; Application of AIRW 2017-7, LP TPDES Permit NO. WQ.0015878001
- SOAH Docket NO. 582-21-1893, TCEQ Docket NO. 2021-0053-MWD; Application of HK Real Estate Development, LLC TPDES Permit NO. WQ.0015784001
- SOAH Docket NO. 582-21-0576, TCEQ Docket NO. 2020-0973-MWD; Application of Regal, LLC TPDES Permit NO. WQ0015817001
- SOAH Docket NO. 582-20-4141, TCEQ Docket NO. 2020-0411-MWD; Application of Cristal Clear Special Utility District and MCLB Land, LLC TPDES Permit NO. WQ0015266002
- Cause No. 19-2054-CV; Williams vs GBRA: 25th Judicial District Court of Guadalupe County, Texas
- PUC Docket No. 46662, SOAH Docket No. 473-17-4964-WS; Petition of the Cities of Garland, Mesquite, Plano, and Richardson Appealing Wholesale Water Rates Implemented by North Texas Municipal Water District
- Cause No. C154899 & C154903, Eminent Domain Proceeding in the County Court at Law No 4 of Brazoria County, Texas – HSC Pipeline Partnership, LLC. vs The Randolph Company and Prototype Machine Company

Herman Settemeyer has served as an expert witness, prepared expert reports, opinions, offered direct testimony, been subject to cross examination and/or deposition in the following cases:

- Cause No. CV23238, Texas Parks and Wildlife vs FLG Owner, LLC, ET AL: 87th Judicial District Court of Freestone County
- SOAH Docket 582-22-1990. TCEQ Docket No. 2021-1391-WR. Application of San Antonio Water System for Water Use Permit No. 13098.
- SCOTUS Original Action No. 141 - State of Texas v. State of New Mexico and State of

Colorado.

- Cause No. C154899 & C154903, Eminent Domain Proceeding in the County Court at Law No 4 of Brazoria County, Texas – HSC Pipeline Partnership, LLC. vs The Randolph Company and Prototype Machine Company

STATEMENT OF COMPENSATION FOR WORK ON THIS CASE

Carlos Rubinstein is being compensated for work on this matter at a rate of \$350 per hour for consulting, \$420 per hour for expert witness preparation and standby time, and \$585 per hour for sworn testimony.

Herman Settemeyer is being compensated for work on this matter at a rate of \$250 per hour for consulting, \$300 per hour for expert witness preparation and standby time, and \$425 per hour for sworn testimony.

CLOSING STATEMENTS

We further note that within the Texas Water Code³⁸ and in the 1944 Treaty³⁹, while not specifically defined, navigation, recreation and pleasure, fishing and hunting among other uses are specifically differentiated. In our opinion that informs that use of a river for fishing, kayaking or wildlife viewing is fundamentally different from navigation, which in our opinion is central to commercial navigation uses of a river.

As we have stated, without water there cannot be navigation. There is no additional water available for allocation for any other uses. Furthermore, water availability is inextricably linked to compliance with water deliveries by Mexico as required by the 1944 Treaty. Mexico has consistently failed to comply and is currently not complying with the Treaty. The Texas Rio Grande Regional Planning Group' (Region M) 2021 report identifies yet one more water availability concern: "[S]upply from the Amistad-Falcon Reservoir system is expected to decrease as a result of sedimentation, which reduces the overall storage capacity. A sediment loading rate was estimated for each reservoir and the reduction in storage is incorporated into the Water Availability Model (WAM). The WAM projections predict a 2020 firm yield of 1,060,616 acft and a 2070 firm yield of 1,053,834 acft".⁴⁰ We concur with this finding and further highlight the negative socioeconomic impacts that a reallocation of water away from higher end uses (municipal, domestic, industrial and agriculture) would have to promote a navigation use for which there is no demonstrated need or benefit.

We disagree with the United States's contention that it can unilaterally decide the subject portion of the Rio Grande is commercially navigable and take water from existing water rights holders for the United States' navigation desire, even when no such activity or demand exists. How would the anticipated "benefit" be calculated against the backdrop of the resultant negative

³⁸ Texas Water Code Chapter 11 Section 11.023 and 11.024

³⁹ <https://www.ibwc.gov/wp-content/uploads/2022/11/1944Treaty.pdf>

⁴⁰ 2021 Rio Grande Regional Water Plan

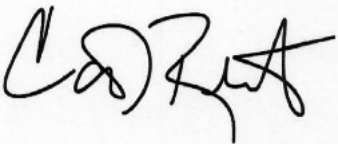
https://www.twdb.texas.gov/waterplanning/rwp/plans/2021/M/RegionM_2021RWP.pdf

socioeconomic impact to existing users of water, that remains a higher end and more valuable use?

CERTIFICATION AND SIGNATURE

I, Carlos Rubinstein did consider the facts, data, and documents set forth above and state the foregoing opinions and conclusions. I reserve the right to amend or supplement this report and my opinions and conclusions in this case based on additional facts, data, and documents of which we become aware after this date.

I, Herman R. Settemeyer, PE did consider the facts, data, and documents set forth above and state the foregoing opinions and conclusions. I reserve the right to amend or supplement this report and my opinions and conclusions in this case based on additional facts, data, and documents of which we become aware after this date.



Carlos Rubinstein
Principal – RSAH2O LLC
Date June 14, 2024



Herman R. Settemeyer PE
Partner, RSAH2O, LLC
Date: June 14, 2024